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USSR Report

TRANSPORTATION

No. 7

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MOTOR VEHICLE

RSFSR DEPUTY MINISTER DISCUSSES PUBLIC MOTOR VEHICLE TRANSPORT

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 2, 1980 pp 1-3

[Article by A. Vasil'yev, RSFSR Deputy Minister of Motor Transport: "With Concern for the Passenger"]

[Text] In carrying out the decree of the CPSU Central Committee "Concerning Improvements in RSFSR Public Transportation Service," our ministry has systematically increased the volume of public transportation. The increase in the volume of passenger traffic for four years of the five-year plan has amounted to 30.3 percent while 29 percent was planned and there have been 1.7 billion passenger-kilometers in excess of the quotas.

During this period the bus fleet has increased by 23.7 percent. The average yearly growth in the total capacity of city busses exceeded the rate of increase during the 9th Five-Year Plan by a factor of 1.6, and this has made it possible to increase the carrying capacity more than 54.4 percent while the growth in city population has been 6 percent. The bus fleet serving the rural population grew by 4,400 units, and 60 percent of these busses were sent to the non-chernozem region, Siberia and the Far East.

During the 10th Five-Year Plan an additional 3,600 bus routes were initiated, including 1,900 in rural areas. At the present time 83 percent of the central sovkhoz and kolkhoz farms are connected through bus lines with rayon centers, railway stations and airports. By saturating the existing city routes with busses, there has been a 15 percent decrease in the traffic intervals, traffic regularity has increased from 89.6 percent to 92.5 percent and the number of runs not made has been reduced by 4.2 million.

The public transportation workers in the Russian Federation are making systematic efforts to improve transport service for the population; there has been widespread introduction of special routes for carrying workers directly from the residential complexes to the entrances of industrial enterprises and to construction sites, of express routes both within and between cities and city routes for children and students in rural areas.

The ministry has been devoting special attention to implementing systems for directing and controlling bus traffic. The traffic control system

"Diaton" has been put into operation in 10 cities and on 2,000 routes. In Omsk the automated system ASDI-A is in operation and the first element of this system has been put into operation. In Sverdlovsk and Kazan'.

Efforts to improve the quality of public transportation service are also being made on inter-city lines. The traffic regularity of inter-city busses has increased to 95.3 percent. More than 1,500 of these routes have been converted to full cash service.

Approximately 2,000 new taxi stands have been established to improve taxi service for the population, and the number of express route taxis has nearly increased by a factor of 3. An automated system for directing the operation of taxis has been introduced in Leningrad and in Rostov-na-Donu.

Great attention is also being devoted to the problems of selecting and strengthening the personnel of public transportation enterprises. In 4 years 55,500 bus drivers have been trained in a special program. This has made it possible to improve bus driver staffing. The basic form of work organization for drivers in public transportation is the brigade method, which covers 95.5 percent of the bus drivers and 95.2 percent of the taxi drivers.

Alongside the specific successes in the organization of public transportation operations are also substantial shortcomings.

A number of transport administrations and motor vehicle transport enterprises did not meet the plan last year for passenger traffic volume. Motor vehicle saturation amounts to 0.65 busses per kilometer of the route network while the standard is 1 or more busses per kilometer. The average traffic interval for busses on city routes is still large and has reached 11.3 minutes. In spite of a reduction in bus crowding, during rush hours passengers are transported at the average rate of 7 to 8 people per square meter of bus floor space, which does not meet the standard.

In some transportation administrations there is a low level of equipment readiness and of release of busses for use on lines. During the current year equipment readiness in 37 transportation administrations has worsened and it is particularly low in the Belgorodskiy, Orlovskiy, Checheno-Ingushskiy, Severo-Osetinskiy, Karel'skiy and Tuvinskiy transportation administrations where the coefficient of equipment readiness is 0.67 to 0.73.

An important shortcoming in the operations of these enterprises and transportation administrations is the unsatisfactory level of organization of income collection and profit preservation; efforts to eliminate travel by passengers without tickets and the struggle against misappropriations are weak, which is the reason for nonfulfillment of the plan for express bus income throughout the entire branch.

Accidents in public motor vehicle transportation give rise to particular alarm. We have not yet achieved a complete guarantee of traffic safety on

routes and cannot yet guarantee every passenger timely and high quality service.

The weak link in transportation administration operations remains the development of the production base of the passenger enterprises. Resources set aside for these purposes are poorly utilized. For a majority of the bus garages under construction throughout the entire ministry, the plan for capital investment in the production base of public transportation is only 70 percent fulfilled.

Great importance is attached to improving the system of managing public motor vehicle transportation on routes, which makes it possible to raise the quality of passenger service and to guarantee timely and safe passenger travel. The ministry has already approved a system for managing transportation quality which provides for increased effectiveness of bus operations and for more fully meeting the needs of the population for transportation and high quality service.

The primary direction for improving the administration of bus and taxi transportation is further specialization of motor vehicle transportation enterprises, concentration of public transportation in specialized associations, creation of associations for terminals and passenger stations, unification of the organizational structure of ATP [Motor Vehicle Transport Enterprise] operational services and of transportation administrations, development and implementation of centralized systems for public transportation operations, management of transportation operations utilizing computers and coordination of the efforts of all forms of public transportation.

One of the primary means of improving public transportation service for the population is socialist competition. To achieve the greatest possible effect the ministry is constantly searching for new and more efficient forms. Taking into consideration the basic Leninist requirements for organizing socialist competition, namely, publicity, comparison of work results and dissemination of positive experience, the ministry has developed the basic conditions for organizing competition and its highest form, advancement toward the communist attitude toward labor.

A popular, developed competition for model passenger service must become primary in our operations. The initiator and founder of this competition is the brigade of bus drivers from the Gor'kovskiy Public Motor Vehicle Transportation Enterprise No 1, headed by Vasilii Shkilev, winner of the USSR State Prize. The brigade collective, working on one of the most intensive city routes, fulfilled the plan for 4 years of the five-year plan ahead of schedule through effective utilization of the busses, achieving a coefficient of bus release onto routes of 0.98 and reaching 100 percent traffic regularity. During these 4 years the collective has rightfully borne the honorable title of "Model Public Service Brigade," and is an authentic example of the communist attitude toward labor.

Competing with V. Shilov's brigade for the title "Model Public Service" are 225,000 bus and taxi drivers and the collectives from 174 bus terminals, 900 gasoline stations and 180 public transportation enterprises. At the present time this high award has already been earned by 44,600 bus and taxi drivers, 651 brigades of drivers working on 905 routes and by the collectives of 100 bus terminals and gasoline stations. The competition for high quality passenger service has been extensively developed in the Gor'kovskiy, Moskovskiy, Volgogradskiy, Verkhne-Volzhskiy, Yuzhno-Ural'skiy, Zapadno-Sibirskiy and in other transportation administrations where more than 80 percent of the drivers of busses and small taxis are competing for model transportation service for the public.

Collaboration of the motor vehicle transportation enterprise with industrial and construction organizations also helps us to achieve high technical and operational indicators for the utilization of the vehicle fleet and to raise the quality of passenger service.

During the final year of the 10th Five-Year Plan, on the basis of an analysis of operations during the preceding period and relying on advanced know-how and the most improved equipment, it is necessary to concentrate attention on eliminating existing shortcomings in the organization of the transportation process and to undertake the necessary measures for raising the effectiveness of vehicle utilization.

Of particular importance for the organization of public transportation are improvements in the production and technical base of the motor vehicle transportation enterprises, its supply of the necessary industrial equipment and means for small-scale mechanization which make it possible to sharply reduce the amount of hand labor and to guarantee a high level of labor productivity in repair operations, as well as the creation of necessary living conditions. The appropriated resources for the construction and modernization of production capacities should be used fully toward these goals.

The problems of improving the management of bus traffic on routes must be solved more purposefully. In the cities the traffic control services (TsDS) must manage the movement of every bus on each route. At the present time the conditions exist for the creation and development of traffic control services in all cities. A system of traffic control for bus traffic must also be implemented on suburban and inter-city routes. Technically these problems have been solved and now persistence must be felt on the part of the republic associations for motor vehicle transportation, the Main Administration for Motor Vehicle ASU [Automated Control System], Rosmezhavtovokzal and the transportation administrations.

An important factor in our successful efforts to improve the conditions and quality of public transportation is the formation of the necessary network of stations, bus terminals, cash points and other line installations on inter-city routes. This work must be carried out in cooperation with the

executive committees of the local soviets and must include kolkhozes and sovkhozes, industrial enterprises and highway organizations in the construction of bus terminals and cash points, particularly in rural areas. Special measures (including highway construction) for this goal must be developed for the 11th Five-Year Plan and must be approved by the executive committees of the kray and oblast soviets and by the councils of ministers of the autonomous republics.

An equally important link in meeting the ever growing volumes of passenger traffic is the system for organizing control over transportation operations. It is necessary to raise the level of operations of the control and inspection organization, of the traffic safety services and of all the engineering and technical personnel. There must be more control tower workers involved in monitoring the load capacity of transportation facilities and mobile line services must be created which are kept in contact with State Automobile Inspection stations.

In questions of traffic safety, improved passenger services and provision for full collection of income, it is important to have a high level of personal discipline on the part of every worker in a public transportation enterprise, from the drivers of busses and taxis to the head of the enterprise, and their public attitude toward the assigned work and an understanding of their role in the system of organization of public transportation is important as well. Workers in public motor vehicle transportation must treat the passengers with care and attention and must provide for comfort, speed and reliability in travel.

The results of operations over the past 4 years bear witness to the fact that we have every possibility of fulfilling the tasks of the 10th Five-Year Plan ahead of schedule and of significantly improving the operation of public transportation.

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MOTOR VEHICLE

MODELS OF TRUCKS PRODUCED AT BELAVTOMAZ DISCUSSED

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 3, 1980 pp 7-10

[Article by I. Demin, Director of Belavtomaz: "From the Belorussian Auto and Truck Industry Workers to the Motor Transport Workers"]

[Text] Included in the Belorussian Association for the Production of Heavy-Freight Trucks imeni 60th Anniversary of the Great October are the Minsk, Belorussian and Mogilev motor vehicle plants, the Baranovichskiy, Kalinigradskiy and Osipovicheskiy plants for motor vehicle equipment and the Minsk spring plant. The association also includes the administration for repair, construction and assembly, "BelavtoMAZremstroymentazh," and the administration for assembly, "BelavtoMAZremmontazh."

BelavtoMAZ is not simply one of the largest production associations. It is the only association in the country whose enterprises do not operate on the main conveyor of the primary plant alone. More than 30 modified versions of trucks with load capacities of 8 to 180 tons roll off the conveyors of BelavtoMAZ plants, including more than 10 models of truck trailers and semitrailers.

The primary enterprise of the BelavtoMAZ production association, the Minsk Double Order of Lenin and Order of the October Revolution Motor Vehicle Plant, is rightfully considered the first in Belorussian motor vehicle assembly. It was created on the 9th of August, 1944. The entire country not only sent equipment, fixtures, metal and construction materials for the construction of the plant but also helped prepare the labor force of future motor vehicle builders. The motor vehicle plants of Moscow, Gor'kiy and the Urals became the first school for many hundreds of future Minsk motor vehicle builders. The oldest motor vehicle plants sent even their experienced workers to Minsk. And thus, on the 7th of November, 1947, on the 30th anniversary of the Great October, the first 5 MAZ-205 dump trucks led a festive column of Minsk motor vehicle plant workers. The new and powerful for those times MAZ-205 dump truck with a load capacity of 5 tons was born.

In the beginning of 1950 the first domestic 25 ton dump truck, the MAZ-205, was produced. It was the predecessor of today's BelAZ models which are manufactured at the Belorussian Motor Vehicle Plant in the city of Zhodino.

In subsequent years the production of the MAZ-200 cargo truck and the MAZ-200V truck tractor was organized, and in 1954 the country's first special log-carrying trucks, the MAZ-501 with a load capacity of 15 tons including the log trailer, were produced. Other versions of these trucks were also produced.

The enterprise soon developed a new and modern design for a base cargo truck, carried out the necessary modernization and prepared for the initiation of its production. On December 31st, 1965 the last MAZ-205 rolled off the main conveyor and was placed on a pedestal in the plant square as a monument to the first Belorussian trucks. In January, 1966 the plant had already changed over to the production of the new MAZ-500 family of cargo trucks.

Their design employed a "tipping cab above the motor." This made it possible to raise the cargo capacity and maneuverability of the truck and to improve the working conditions for the driver. An extremely high level of standardization of assemblies and parts was achieved in the new family of MAZ vehicles which significantly reduced production expenses.

Many design developments in the MAZ-500 family of trucks were recognized as inventions.

Except for the basic truck with a load capacity of 7.5 tons, the MAZ-500 family of oversize-load trucks consisted of the MAZ-503B dump truck with a load capacity of 7 tons and the truck tractor MAZ-504 for the semitrailer with a load capacity of 12.5 tons. The trucks were fitted with the Yaroslavskiy four-stroke motor YAMZ-236, an original front-axle assembly consisting of a central gearbox and transmission, a comfortable metal cab with sleeping area, hydraulically assisted steering and other innovations.

During the 8th Five-Year Plan the plant collective began the production of the modernized trucks MAZ-500A, MAZ-503A and the MAZ-504A and began manufacturing the MAZ-516 truck (6 x 2) with a raising, supporting axle.

In accordance with the directives of the 9th Five-Year Plan for the development of the national economy concerning the creation of new, oversize-load trucks and tandem trailer trucks designed for international and inter-city cargo transport, the plant began production of the MAZ-504B-5205A tandem trailer trucks with a load capacity of 20 tons. A no less important task was also completed, namely, the production of multi-axle truck tractors with high cross-country ability which are designed for operation in areas without roads and under conditions of low and high temperatures which is particularly important in the areas of Siberia, the Far East and Central Asia.

Modernization of the MAZ-500A family of trucks through the utilization of advanced designs has made it possible to increase the load capacity of the side drive truck and the dump truck to 8 to 9 tons and the tandem trailer truck to 14.5 tons. The maximum speed of the side drive trucks and tractors was increased to 85 kilometers per hour and of dump trucks to 75 kilometers per hour.

operating life at the beginning of production of the MAZ-500 trucks was increased to 160,000 kilometers.

Extensive contact of the association with the maintenance organizations through research and experimental production enterprises located in various regions of the country permits objective evaluation of the reliability of the trucks being manufactured.

In 1974 the first agreement in the country was concluded concerning the scientific and technical collaboration of the enterprises of the Minsk Motor Vehicle Plant, the Yaroslavl association "Avtodizel", the Scientific Research Institute for Motor Vehicles and Motor Vehicle Engines (NAMI), the Moscow Highway Institute (MADI), the Moscow Motor Transport Combine No 1 and the Main Administration of Motor Transport of the Executive Committee of the Moscow City Soviet of Workers' Deputies. This agreement has already been in effect for more than 7 years and actively influences the operations of our collectives.

An analogous agreement has been concluded between the Minsk Motor Vehicle Plant, the enterprises of the BSSR Ministry of Motor Transport and the Belorussian Scientific Research and Technical Institute for Motor Transport and this year with the UzSSR Ministry of Motor Transport as well.

As a result of the systematic efforts to improve truck reliability, one of the most important indicators, namely operating time until the first breakdown, was improved by an average factor of 2.3.

New and efficient methods for equipment service and MAZ truck repair were developed through the cooperation of belNIIAT [Belorussian Scientific Research and Technical Institute for Motor Transport], NIIAT [State Scientific Research Institute for Motor Transport] and NAMI, which made it possible, through an increase in truck reliability, to lower the labor-intensiveness TO-1 to 19 and TO-2 to 30 percent.

By 1975 operational experience had confirmed that the service life of MAZ-500A trucks before the first major overhaul had reached 250,000 kilometers, that is, it had exceeded the original amount by a factor of more than 1.5.

The beginning of the 10th Five-Year Plan was marked by completion of the experimental and design work in the creation of the MAZ-5335 family of modernized trucks. At the basis of the modernization were design solutions which were aimed primarily at achieving a service life of 300,000 kilometers before the first major overhaul.

Particular attention was devoted to improving the active and passive safety of the trucks. The updated trucks are equipped with a double braking system with separate linkage for each axle and are fitted with lighting equipment which meets international requirements.

In order to improve comfort the level of vibration at the driver's seat was reduced and the force needed for the operating controls was also lessened.

The esthetic features of the trucks were improved through the introduction of a new radiator shell and a bumper with headlights located in it, an improved cabin interior, the replacement of wooden floors with metal and so on.

In 1978 the plant converted totally to the manufacture of all the trucks in the MAZ-5315 family. This conversion is providing a savings to the national economy of approximately 100 million rubles.

Since the initiation of production, all trucks of this family have been given the state Seal of Quality.

Further improvements in the productivity and technical level of trucks and allowance for the developmental tendencies of modern motor vehicle building are provided for to a large extent in the future MAZ-6422 family of trucks and tandem truck trailers, which are to be produced during the 11th Five-Year Plan.

The newly developed MAZ-6422 family of trucks meets modern requirements with regard to its technical and operational indicators, namely, comfort, external appearance, compliance with various service requirements, productivity, reliability and safety.

The tandem trailer truck of the MAZ-6422 family was designed with allowances made for the requirements and tendencies of world motor vehicle building.

Basically new assemblies, units and systems (cabin, frame, drive gear, steering assemblies, brake system, bed, suspension, clutch assembly, and so on) were created which have high technical and operational indicators.

High levels of productivity and economy are provided by such indicators for tandem trailer trucks as engine horsepower (240, 290, 320 and 360 horsepower), maximum speed (84 to 99 kilometers per hour), load capacity (21 to 32.5 tons), loaded weight (34 to 48 tons) and service life (720,000 to 800,000 kilometers before being written off and 400,000 to 500,000 kilometers before the first major overhaul).

Particular attention has been devoted to creating comfortable conditions for the driver, especially in trucks which are used in the tandem trailer truck fleet for inter-city and international transport. They are fitted with a "large" cab with 2 spring-mounted seats for the driver and relief driver and 2 sleeping areas located one over the other.

The cab is tipped with the aid of a hydraulic lift to an angle of 70 degrees which makes it possible to replace the engine and its systems without dismantling the cab.

The location of the operating controls, the required visibility and the heating system have been designed taking into account standard requirements. The cabs are equipped with additional means of improving the driver's work.

These include windshield sun shades, electric windshield washer, arm and head rests on the seats for the driver and relief driver, 2 sleeping areas, glove compartment, first-aid kit compartment, hangers for clothing, curtains for the sleeping areas, dome lights and anticipated air conditioning.

In spite of the fact that a number of new assemblies have been produced, there is 73 to 86 percent standardization of assemblies and parts.

Since 1978 the Minsk Motor Vehicle Plant has organized the industrial production of the MAZ-6422 tandem trailer truck for containers and tractor and the semi-trailer MAZ-9389 with a load capacity of 32.5 tons (illustration No 3), which was rated highly during use in the "Sovtrannavto" system.

Included in the association "BelavtoMAZ" is the Belorussian Motor Vehicle Plant which is a specialized plant for the production of quarry dump trucks and tandem trailer trucks with load capacities from 27 to 180 tons.

The BelAZ dump trucks are for industrial transport and are used in the transport section of mineral resource mining.

A major hydroelectric construction site can do without BelAZ trucks. They work in the severe conditions of the Far North and Far East, in the hot deserts of Central Asia and in the rainy Baltic area.

The Belorussian Motor Vehicle Plant is a young and growing enterprise with good working conditions and high standards of production and is equipped with modern and highly productive equipment. The plant manufactures the BelAZ-540A dump truck with a load capacity of 27 tons, the BelAZ-548A with a load capacity of 40 tons, the BelAZ-549 with a load capacity of 75 tons and the tandem trailer truck for hauling coal (the tractor BelAZ-7420 with the semi-trailer BelAZ-9590) with a load capacity of 120 tons. Taking into account user demands and the various climatic conditions under which they are used, the trucks are produced in various versions, namely, coal-hauling trucks (increased capacity beds are installed) and trucks designed for hot and cold climatic conditions.

The BelAZ-540A and BelAZ-548A trucks are equipped with YAMZ-240 and YAMZ-240H diesel engines with 360 and 500 horsepower respectively. These trucks have a semiautomatic, hydromechanical transmission, pneumatic-hydraulic suspension and power assisted steering.

Due to these and other advanced designs, the BelAZ-540A and BelAZ-548A trucks possess good traction and power qualities, high maneuverability and a smooth ride.

The BelAZ-549 truck and the tandem trailer coal-hauling truck (the BelAZ-7420 tractor and the BelAZ-9590 semitrailer) have been equipped with the 64N 21/21 and 84N 21/21 diesel engines respectively. They utilize an automatic, electric transmission consisting of an electric traction motor and regulating equipment. The electric traction motors are located on the leading wheels of which the BelAZ-549 truck has 2 and the tandem trailer coal-hauling truck has 4 (the combination of the leading wheel with electric traction motor, the gearbox and the wheel brakes is known under the term "electric motor-wheel").

These trucks employ a hydraulic system for control of the brakes from the hydraulic accumulator, a hydraulic steering system and a pneumatic-hydraulic independent suspension system for all 4 wheels.

The BelAZ-549 truck and the BelAZ-7420 tandem trailer truck with the BelAZ-9590 semitrailer possess good traction qualities, light steering and a high level of smoothness and stability. The short wheel base of the truck and of the tandem trailer tractor insure high maneuverability.

The tandem trailer truck for coal-hauling has a semitrailer with bottom dumping. This design permits an increased capacity for the semitrailer body and a low center of gravity.

The first tandem trailer trucks for coal-hauling have already been sent to Yuzhnaya Yakutiya.

The Belorussian has done much to adapt BelAZ trucks to work in cold climates. Normal working conditions have been created in the cab for the driver when the surrounding temperature of the air is as low as -60 degrees Centigrade and measures have been taken to provide for reliable operation of the truck's systems under severe cold conditions.

Now the plant is working on modernization of series produced trucks and on the creation of new trucks with load capacities of 110 and 180 tons.

The association also includes the Mogilevskiy Motor Vehicle Plant which is producing the MoAZ-546P-357P scraper with a scoop capacity of 8 cubic meters and a single-axle tractor.

The MoAZ-546P is designed for use with various road building equipment (roller, crane, grader and others). The Plant began manufacturing the all-terrain MoAZ-522A dump truck with a capacity of 20 tons. This is the first in a family of earth moving trucks with load capacities from 20 to 45 tons. A special characteristic of these earth movers is that all their wheels are driven and have single-ply tires at low pressure (3.25 to 3.75 kg/sq cm).

The Mogilevskiy Motor Vehicle Plant also produces the MoAZ-7405-0685 tandem trailer dump truck with a load capacity of 22 tons, which is designed for underground operation in mineral resource mining and in tunnel construction.

A large number of such machines are working on the construction of the Baykal-Amur highway. The tandem trailer dump trucks are fitted with an effective system for reducing the toxicity of exhaust gases.

In order to hasten the creation and implementation of new equipment, the association has undertaken a series of measures for strengthening their own scientific and technical potential through the organization and development of design and experimental services and central plant laboratories for production types and basic manufacturing directions.

However, under contemporary conditions, even with a large scientific and research base, it is impossible to solve the problems of speeding up scientific and technical progress alone. Therefore, the "BelavtoMAZ" association has set a course for expansion of cooperation with scientists. Its enterprises are maintaining close creative ties with almost 70 scientific institutes and organizations in the country. The educational-scientific-production association "MAZ-BPI" (Minsk Motor Vehicle Plant - Belorussian Polytechnic Institute), which was the first formed in the republic on a voluntary basis, has already been in successful operation for many years. The division for research on the problems of cargo trucks, which was formed at the Minsk Motor Vehicle Plant with the participation of the BSSR Academy of Sciences, has also worked productively.

The fruits of this collaboration are already apparent. Every year the extent of equipment in the association's plants grows. In the first year of the 10th Five-Year Plan more than 1,700 automatic machines, semiautomatic machines and integrated and special machine tools were in the shops. By the end of the five-year plan their number will grow to nearly 2,200 units.

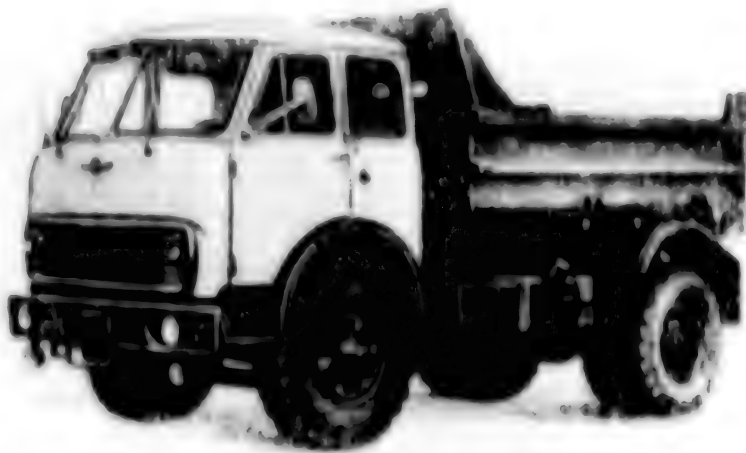
The conveyor lines in the association's plants extended 33 kilometers. Welding utilizes 775 automatic and semiautomatic machines. By the end of the 9th Five-Year Plan the length of the conveyors will increase to 39 kilometers and the number of automatic and semiautomatic welding machines exceed 900.

The number of mechanized flow lines is also growing. The development of the plant's own machine tool building facilitates growth in the extent of equipment in the association's enterprises.

The newest, advanced manufacturing methods are being introduced in the association's plants with the aid of scientists. These include, for example, finishing work on parts using pliable deformation, electroslag remelting of the waste from high speed steel, cold linear rolling of torsion shafts, production of parts using powder metallurgy, casting aluminum alloys under low and high pressure and many others.

The Belorussian motor vehicle builders consider it their task to be responsible for meeting user needs since user needs are the most important criteria in evaluating the performance of the enterprise.

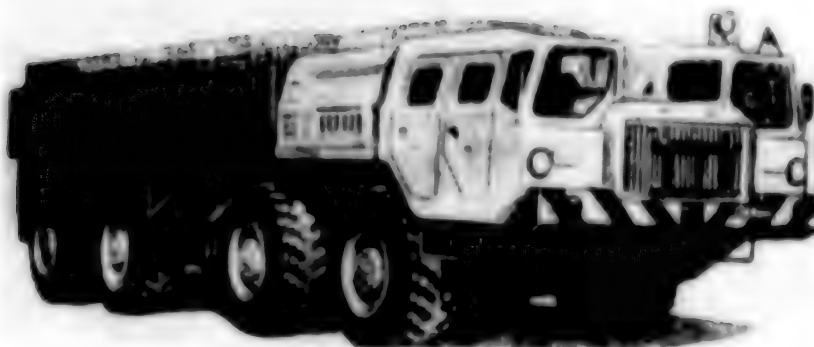
And in the future we will always be governed by that in order to meet the requirements of the country for motor transport.



MAZ-200 Truck



MAZ-5335 Truck



MAZ-590A Truck



MAZ-5549 Truck



MAZ-6422-9369
Truck (Container
Carrier)



MAZ-7310 Truck

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MOTOR VEHICLE

MEASURES TO CORRECT DEFECTS IN BELAZ-549 DUMP TRUCK

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Mar 80 p 2

[Article by V. Bobrov, staff correspondent: "'A Breach in Authority'"]

[Text] That's what they called a letter from the drivers of the Tomusinskaya Motor Vehicle Base of the Kemerovougol' [Kemerovo Coal] Production Association, a letter which was published by SOTSIALISTICHESKAYA INDUSTRIYA in December 1978. That same issue also contained a reply from T. Shpakovskiy, director (by now the former director) of the Belorussian Motor Vehicle Plant, who admitted that the BelAZ-549 dump truck, on which they had started series production, was indeed unreliable in operations and had many defects. On behalf of the collective of motor vehicle builders, he assured them that all measures would be taken for the elimination as rapidly as possible of the defects that had been uncovered during the process of operating the truck.

More than a year has transpired since that time. The fleet of these motor vehicles has grown to 45 units within the association. But, coupled with it, the misfortunes of the motor pools which operate these vehicles have also increased.

Those who had been the "victims" gathered in the office of A. Orlov, the association's director for transport. They included K. Zhmurovskiy, N. Novoselov and A. Kress, who were directors of the motor vehicle bases, and G. Levert, chief engineer of the motor vehicle administration. A discussion was underway on the doleful subject of what the reportomania, which in being filled out gave the vehicle marked by flaws in workmanship a lease on life, would cost the Kemerovougol' Production Association and the state.

The Bachatskiy Motor Vehicle Base

There are three makes of engines on the 19 motor vehicles and not one of them is reliable. Neither the Balakovo Machine Building Plant imeni Dzerzhinskiy nor the Urals Turbine Motor Plant has ensured sufficient reliability in its production. The valves come loose and fall off, the pistons burn through and

the heads of the cylinder block split--one need not even talk about the warranty periods for operations. There is no planned supply with spare parts. In August of last year the motor vehicle operators shipped off one 6ChN-21/21 engine to the workers at the Urals for repairs--as of this time they are still waiting to get it back. The Balakovo Plant has been attempting since October, but has not succeeded in starting production of the brand-new 6DM-21A engine.

In March-April we sent three motor wheels to Moscow to the Dinamo Plant. There is a protocol according to which it is incumbent upon the plant to repair eight units of them for the year. They have not done a single one and are not responding to inquiries.

The Belorussian Motor Vehicle Plant workers attempted to do something and sent repair personnel to the Kuznetsk Coal Basin. But this was poor consolation. The new motor vehicles--and we stress that these are series-produced motor vehicles!--just have to work and are not to be repaired. In reality then, everything is the other way round. And this is how it's taking shape.

The Tomusinskaya Motor Vehicle Base

Last year 201,000 rubles were spent on the acquisition alone of spare parts, machines and materials for the repair of 10 BelAZ-549's. The remaining fleet of industrial motor vehicles consists of more than 150 BelAZ-540's and BelAZ-548's. For that same item, 151,000 rubles were expended on them.

The Kiselevsk Motor Vehicle Base

They placed the most qualified drivers on the new vehicles. But they did more standing than working. It was necessary to pay people in addition to the average piece-rate wage. During last year alone more than 44,000 rubles went for these purposes. This represents a direct financial loss. And how do you account for work stoppages equal to 2,500 vehicle shifts and the one and one-half million cubic meters of rock that were not hauled away for this reason? If you account for it according to the coefficient of land stripped, then this means that more than 200,000 tons of coal were not readied for mining. But even this arithmetic is not totally correct. Last year the association increased extraction, but the volume of stripping work was reduced. This is a very dangerous tendency. It can lead to the disorganization of mining operations.

They showed me a detailed breakdown of the wages for some of the drivers working on the BelAZ-549 for January of the current year. N. Absalikhov worked 96 hours on the line and 76 hours on repairs. As a result he earned 135 rubles in piece-rate and 77 rubles on a time rate. After the bonus compensation and markup for job category and the regional coefficient were computed for him, it was yet necessary to pay him almost 155 rubles in addition to the average wage. Driver I. Kharlamov spent a total of 58 hours on the line and then 123 hours on repairs and also received a considerable supplementary payment.

But now let's move from details to generalizations. For 1979 the Kemerovougol' Production Association had planned, mind you, planned a financial loss (1) in the sum of 278,000 rubles from the operation of the BelAZ-549. Actually, more than 800,000 rubles were lost. "Thanks" to the arrival of the new large-load motor vehicles, the output per average registered ton of motor vehicle fell by three percent and the return on investment was substantially reduced. The productivity of this 70-ton giant was approximately on a level with the BelAZ-540, the carrying capacity of which is 27 tons. But it costs tens of thousands of rubles—it is almost six times more expensive than its elder brother.

It is as if the BelAZ-549 has become the unloved child of many negligent nannies. The supplier plants who outfit the new motor vehicle with complete sets of engines, motor wheels and turbo-superchargers take the position of "only if we could get it off our hands." It is not so much state as it is departmental interests that frequently lag in the evaluation of their output.

They showed me a special table in the Kemerovougol' motor vehicle administration. The table is filled up with a list of all 162 tires for the BelAZ-549 that lived out their service life in the motor pools of the association. Only 55 of them endured the allowance set in the warranty—18,000 kilometers. Meanwhile, at the same time, 64 made it through less than 10,000 kilometers. The least expensive tire costs several thousand rubles.

It is likely that enough has been said about the defects of the new large-load BelAZ-549 dump truck. I refer those who wish to become acquainted with them in more detail to the formal documents, protocols, complaints and other documents of that sort available at Kemerovougol'. But not a single one of them will give answers to the following questions. How could it happen that a motor vehicle characterized by totally unfinished work and of little use for operation could be launched in series production? Is it worth continuing its output? Finally, what kind of measures have been taken so that a more powerful dump truck on which the Belorussian motor vehicle builders are working might not have a similar fate befall it?

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CSO: 1829

RAILROAD

FAILURE TO FULFILL RR CAR PRODUCTION PLAN DISCUSSED

Car Production Delays Criticized

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 30 Oct 79 p 1

[Editorial: "Use Advanced Experience More Widely"]

[Text] The USSR TsSU [Central Statistical Administration] report about industry's work results for the first 9 months of 1979 has been published. Still another testimony of the confident advance of our industry has been obtained. As a whole it coped with the goals for volume of output sales, and growth in production and labor productivity was achieved. Gasfield workers worked successfully. They overfulfilled the gas-recovery plan considerably--recovery rose by 12 percent over the corresponding period of last year. The plan for the first 9 months of the year for output of instruments, means of automation and computer equipment, agricultural machinery, petroleum equipment, ready-made garments and commodities for cultural purposes and personal services, household goods and other types of output was overfulfilled. The output of products of the highest quality category rose by almost a fourth.

But in analyzing critically the results for the 9 months, let us pay special attention, as the party instructs us, to an unused potential, in order to put it into use without delay. In some sectors it was not possible to cope completely with the plan for realization, production and labor productivity growth. The country received appreciably less than the scheduled amounts of coal, petroleum, rolled ferrous metal, mineral fertilizer, lumber, paper and some other types of products. This lag in various areas reduced to a known extent the effect of the efforts of industry's advanced workers and affected adversely the overall pace of growth in production.

Let's take, for example, the work of the railroad car builders. The output of mainline freight cars versus the level of the first 9 months of last year not only did not grow but was even reduced. And this

intensified much more the already strained situation in transport: large amounts of recovered fuel, raw materials, timber and intermediate products that had been produced were not getting to the consumer, bringing about a disruption in many industrial networks.

In modern highly developed socialist production, with its deep specialization and the widest cooperation, a "slip" in just one link is fraught with losses in smoothness of operation of the whole production mechanism. Meanwhile, experience indicates that undesirable interruptions of this nature can be avoided completely. How? Primarily by better use of the reserves for intensifying production that exist within the production facility and within the industry and by a higher level of organization and control thereof.

The decree adopted in July this year by the CPSU Central Committee and the USSR Council of Ministers about improving the managerial mechanism creates favorable conditions for this purpose. The measures developed were founded on concrete managerial experience of developed socialism and were verified by experience. They must be executed without delay and energetically, in order to provide for tangible growth in effectiveness and quality during the current five-year plan.

It is no secret to anyone that at many enterprises major worktime losses are permitted, the levels of labor, technological and planning discipline are low, and fixed production capital is far from being used completely. Here, for example, is a report received from Azerbaijan by the editors: at the Machinebuilding Plant imeni Musabekov (of Minlegpishchemash [Ministry of Light Industry and the Food Industry]), Dzegamsel'mash [Dzegam Agricultural-Machinery Plant] (of Minsel'khoz mash [Ministry of Tractor and Agriculture-Machine Building]) and Mingechaurdormash [Mingechaur Road-Machinery Plant] (of Minstroydormash [Ministry of Construction, Road and Municipal Machine Building]), growth in production volume during the current five-year plan is little more than a third of the average for the republic's machinebuilding, yield on capital is 40 percent less, and labor productivity is little more than half. Such drops in use of production potential are explained by nothing but a low level of organizing production and competition and clearly inadequate attention to the propagation of advanced experience.

"We have gained enormous treasures of advanced experience in the country in solving any production tasks," writes electrical installer A. Kolesnikov to the editor from Volgograd. "But, unfortunately, the system for propagating advanced experience, especially in the matter of intensifying production, still leaves much to be desired." Engineer V. Kushakov from Novosaltaysk, Candidate of Economic Sciences I. Kharchenko from Rostov and many other readers wrote us about this. Their concern is not without foundation. It can be said with complete confidence that if the experience in the intensive conduct of production that has been gained by the "thousandeers" collectives in the coal industry, by contracting brigades in construction and machinebuilding, by advanced oilfield workers, and by competition under the slogan, "Put Capacity under Full Load," in the Sumy

Machinebuilding Association (ment) prize and other collectives, were used better, then the results could be much better.

The current year is coming to a close, and not much time is left before the end of the five-year plan. Each day socialist competition in honor of the 62d anniversary of the Great October flares up with new strength and millions of people are involved in the movement to complete five-year plan tasks by the 110th anniversary of V. I. Lenin's birth. In this environment of a nationwide labor upsurge, the organizers of production and of competition are required to create all the prerequisites for successful fulfillment of annual and five-year plans.

Party and trade-union organizations of republics, oblasts, cities, associations and enterprises and production staffs of branches and subbranches of the economy should promote active competition increasingly widely for work without lagging, for the economical use of each gram of raw material and fuel and of each kilowatt of electricity, and for intensive and rhythmic operation of industry's equipment base at full power. At the end of the year and the five-year plan it is necessary to mobilize all efforts in order to achieve highly organized and coordinated work of the industrial complex and of each element thereof. Each worker must realize deeply that the fate of the five-year plan depends upon his work. It is also necessary to achieve maximum yield each day and each minute. The October appeals of the CPSU Central Committee call for this:

"Workers of the Soviet Union! Raise the productivity, effectiveness and quality of labor at each workplace! Struggle for successful fulfillment of the 1979 plan and the goals of the Tenth Five-Year Plan!"

Machinebuilding Minister Replies

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 2 Feb 80 p 2

[Reply by V. F. Zhigalin, Ministry of Heavy and Transport Machine Building: "I Will Lead My Trouble Away by the Hand"]

[Text] An official answer to the criticism.

The article, "Use Advanced Experience More Widely," that was published in SOTSIALISTICHESKAYA INDUSTRIYA of 30 October 1979 correctly criticized the Ministry of Heavy and Transport Machine Building for underdelivery of mainline freight cars. Because of a lack of capacity to produce wheel pairs and a shortage of steel castings, Mintyazhmash [Ministry of Heavy and Transport Machine Building] plants are not fulfilling the plan for delivering mainline freight cars.

Construction of the facilities of the startup complex of steel mill department No 3 at the Bezhitskiy Steel Mill has been going on such 1971. Introduction of the first phase, with a capacity of 20,000 tons of castings, was set for 1978, but Glavtransstroy [Main Administration for Transport Construction] of USSR Minpromstroy [Ministry of Industrial

Construction] has not yet provided for its introduction. At the Altay Carbuilding Plant capacity should be introduced for the production of 60,000 wheel pairs based on contact rolling bearings. Because of inadequate capacity of the construction organization of Novosibirskstroy (Novosibirsk Construction Trust) of USSR Ministroy (Ministry of Construction), 2.0 million rubles' worth of work was done during the whole construction period. Practically no work was done during 1977-1979 on construction of the framework.

The state of affairs at carbuilding plants has been complicated this year by the fact that in the preceding year MPS (Ministry of Railways) had supplied 55,000-60,000 wheel pairs annually in direct ties, but for 1979 agreed to supply only 28,000, with MPS to supply all journal-box assembly parts with mechanical machining, which Mintyazhmash does not do.

USSR Minchermet (Ministry of Ferrous Metallurgy) as a whole fell short by 30,4000 tons of rolled metal. The Dneprodzerzhinsk Metallurgical Plant, the Zhdanov Metallurgical Plant imeni Il'ich, the Kommunar'sk Metallurgical Plant and the Nizhnyy Tagil' Metallurgical Combine were especially unsatisfactory in delivering rolled ferrous metals.

Despite repeated appeals to USSR Ministroy, USSR Minpromstroy and USSR Minchermet about unsatisfactory progress of construction and deliveries of castings and wheel pairs and rolled ferrous metals, changes for the better did not occur.

Each month Mintyazhmash takes the necessary measures to monitor strictly progress in the production of railroad-car castings and wheel pairs for the expected output of freight cars and the uniform provisioning of all the carbuilding plants with them.

Editorial Comment

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 2 Feb 80 p 2

[Text] The newspaper, in the editorial that the minister answers, pointed to the fact that Mintyazhmash (Ministry of Heavy and Transport Machine Building) did not carry out the plan for production and delivery to the national economy of freight cars. That is why the already strained situation for transport has become still more tense. If this ministry had made better use of advanced experience, as certain others referred to in the editorial did, then it would have been possible to put into operation additional reserves and to prevent the lag.

After recognizing the correct criticism insofar as nonfulfillment of the plan is concerned, the minister went around the question of nonutilization of reserves at carbuilding enterprises subordinate to it and indicated, in essence, that the sole causes of the delays were partners who do not act

with precision. The reproaches against the subcontractors are not on a solid foundation. Just as, incidentally, no few counterreproaches can be heard from the subcontractors. But let us put the question another way: did the ministry itself use all its own potential for preventing losses, or at least for reducing them to a minimum? An analysis of the state of affairs at enterprises of Soyuzvagonmash [Main Administration for Railroad Carbuilding] of Mintyazhmash answers this question negatively: many opportunities were missed.

Judging by the answer, shortfalls in metal delivery were a main cause of plan nonfulfillment. In that case, it would seem, the metal obtained should have been consumed especially thriftily. Alas, this did not happen, for careless expenditure of it had become traditional in the industry. Back in May 1974 a CPSU Central Committee decree noted that Mintyazhmash poorly organized work on the rational use of metal. The results of later Soyuzvagonmash activity indicated that since then the situation had not changed for the better. From 1974 to 1979 the metal utilization coefficient in the subbranch remained at the same level, 0.85.

At first glance this does not seem so bad--the coefficient in machine-building is lower on the average. However, this subbranch has its own specifics: the most metals-intensive parts of the car come from precision blanks. In this case, there are still many such parts where metal savings during machining are possible. The collective of Uralvagonzavod [Urals Carbuilding Plant], which is not subordinate to Mintyazhmash but is producing a similar product, proved this indisputably. In 1974 the metal utilization coefficient here was the same 0.85. But then from year to year it was raised successively, and in 1979 it reached 0.89. In this way 400,000 tons of rolled metal were saved.

It is a curious paradox: it was precisely in carbuilding that the form of competition for economies most popular now in the country--for personal accounts of savings--was born. And this again was at Uralvagonzavod. The result obtained here was appreciable. The Urals carbuilders saved 122 kg of metal in building each car in 1975, 273 kg in 1976. In 1977, relying upon collaboration with science and Nizhnyy Tagil' metallurgists, they introduced a number of radical changes in car design and production technology and reduced the metal consumption norm per car right away by almost 3 tons. But even under such a tighter standard, last year more than 800 tons of metal were saved.

Soyuzvagonmash enterprises, unfortunately, disregarded this experience. And they paid for it: during the first 9 months alone of last year they overconsumed more than 3,500 tons of metal, although their standards were not as strict as those of the Urals workers. It can be said with complete confidence: if the subbranch's associations and plants had conducted their own rigid regime of savings, then the matter of being provided with metal would have been much less severe.

The second trouble mentioned in the reply was excessive delay in introducing new capacity into operation. And this, as is said, is occurring.

Although it is true that it is not the builders alone who are guilty here. Neither is Mintyashmash without fault as the client. But the matter does not rest even there. An analysis of the situation prevailing in the subbranch leads to an unexpected conclusion: why is this new capacity needed so desperately when existing capacity is being used poorly?

Judge for yourself. On the one hand, Soyuzvagonmash plants are not wanting for castings: new capacity for 13,000 tons of castings at the Bezhitaskiy Steelmaking Plant did not begin production last year. On the other hand, at the same Bezhitaskiy steelmaking plant more than 13,000 tons of castings were tossed into scrap last year. In comparison with 1974, both the share of the scrap and its tonnage have exactly doubled. Were it not for this, the delay in introducing the new department could have been completely compensated for.

However, even this is not all. The chronic lack of regularity in pace at the plant prevents more complete use of capacity. According to official data presented to the editors by enterprise managers, last year not in one month was the production task for the first 10-day period carried out, and only twice was it carried out in the second 20-day period. Moreover, a lack of rhythm is being programmed into the task itself, which is distributed extremely unevenly by 10-day period. It was planned to produce 2,000 tons of steel castings in the first 10-day period of November, for example, and 4,500 in the third. So that actually during the first 20 days the foundrymen did not fulfill even half the monthly plan for producing steel castings. And, in the final analysis, lack of regularity has led, based upon that same capacity, to the plant producing 20,000 tons less of castings than in the first year of the five-year plan. And this has disrupted the operations of the whole subbranch to some degree.

Unfortunately, unsatisfactory organization of production is characteristic not only for the Bezhitaskiy plant. It has become a chronic ailment of almost all Soyuzvagonmash enterprises. Here, for example, is randomly chosen data of the association for November of last year. During the first 10-day period, for the association as a whole, only 5(1) percent of the monthly volume of commodity output was produced, and, during the 20-day period--27 percent. The monthly program of the subbranch, not to speak of individual plants, is being carried out practically during the last 10 days.

If the production facilities of the association, including those of the blankmashs, had worked the whole month with a normal workload, the question of inadequate capacity would hardly have been so severe. And the experience of the same Uralvagonzavod testifies whether this is possible. The editors requested information for the most difficult month of the year--December. Here it is: during the first 20 days, 66.6 percent of the monthly output was produced, 33.4 percent in the third 10-day period.

The abundance of scrap at the Bezhitaskiy plant could have been prevented had an integrated system for quality control of output been introduced.

It had been undertaken, but right now it has been let slide. A substantial portion of the workers, sections and departments of this enterprise regularly do not cope with their tasks. But competition for work without lags is merely proclaimed, experience in organizing it has not been studied, and neither organizational and technical measures nor integrated training of the workers has been strengthened.

It was just this attitude toward advanced experience that the newspaper article spoke about. The editors hoped that critical remarks would persuade the ministry to put order into the essentials of the matter in a businesslike manner: the way that advanced experience is being used by the subbranch, which is subordinate to it; what reserves remain hidden under a bushel; and how to introduce them into action. Unfortunately, such a responsible approach to the criticism was not encountered. We would like to believe that the new newspaper article will find greater understanding.

11409
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RAILROAD

LARGE INCREASE IN USE OF LONGER, HEAVIER TRAINS

Moscow *Ekonomicheskaya Gazeta* in Russian No 5, Jan 80 p 4

[Article by I. Artemov: "Heavy-weight Trains Are Rolling"]

[Text] A year ago the first trains with a weight of 6,000 tons and a length of 125 railroad cars rolled along the capital city's main steel highway. V. P. Sokolov, P. S. Gusev, V. S. Rumyantsev, V. Ya. Skos and others, who are the foremost locomotive drivers of the Moscow-Sortirovochnaya [Classification] depot, emerged as the pioneers of the new initiative. Their undertaking has been supported by dispatchers, railroad car fleet workers, track services personnel and employees of power facilities and of the rest of the railroad's services.

The valuable experiment in raising efficiency in the hauling of freight by virtue of increasing the weight and length of trains has been approved by the Central Committee of the Party.

Whereas in January of last year 302 heavy-weight trains in all ran along the railroad, now more than 700 such consists ply along the tracks each day. Their operation has been inserted into the schedule on the most important lines and has taken on a mass character.

During the current year the railway workers on the Moscow mainline, seeking to develop socialist competition, have pledged themselves to ship no less than a million tons of freight above the plan, including 300,000 tons by the 110th anniversary of the birth of V. I. Lenin. At the same time, it has been decided to organize traffic with trains weighing 8,000 tons on freight-intensive stretches.

The running of trains with increased weight and length is having a positive influence on all the final results of the railroad's activity. Thus, during the course of the year the average weight of a freight train grew by 63 tons—such an increment had never before been achieved on the mainline. This is tantamount to relieving 23 locomotives and 70 locomotive crews daily. More than 38 million kwt/hrs of electric power and almost 3,500 tons of diesel fuel have been saved during the year.

experience is being gathered and the base for regular traffic by heavy-weight trains is being perfected and strengthened. The modernization and growing machine-worker ratio of the mainline are ensuring a consistent increase in the carrying capacity and the reclassification capabilities on the most important routes. More than 400 kilometers of track have been repaired at classification yards and section stations and tracks have, in addition, been laid and lengthened at 12 of the largest stations over a brief period of time.

The railroad car fleet workers are actively participating in competition under the motto: "Give a 'green light' to heavy-weight trains." New self-propelled repair installations and trunk-line phone boxes [peregovornyye kolonki?] have gone into operation and the oil-pipeline and air-duct systems have been lengthened at points for the technical servicing of heavy-weight trains.

The skill of locomotive drivers, train and switching dispatchers, specialists in the marshaling of train consists and other station employees is growing. The quest for additional reserves for the traffic and carrying capacity by virtue of a further increase in the weight and length of trains on the capital city's mainline is continuing.

The collectives of the October, Baltic, Gor'kiy, Sverdlovsk, South Urals and some other railroads are successfully assimilating and incorporating the practices of the Muscovites. A growth in the average weight of freight trains has accelerated markedly on them. But on the Tselinnaya [Virgin Lands], Transcaucasian, Southeastern and a number of other mainlines, they are still doing a poor job of popularizing this valuable undertaking and the quota for increasing the average weight of a train is still not being fulfilled.

PHOTO CAPTION

1. The drivers from the locomotive depot at the Tula-1 yards are now running almost twice the number of heavy-weight trains as a year ago. In conjunction with this, the pledges for economizing on electric power are exceeding the goals.

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NO: 1829

RAILROAD

TRAINS WITH ELECTROMAGNETIC SUSPENSION

Moscow SOVETSKAYA ROSSIYA in Russian 4 Jan 80 p 4

[Article by Ye. Khokhlov: "A Train--Without Wheels"]

[Text] The next step in tests of transport equipment based upon the magnetic cushion, on the creation of which scientists of the All-Union Scientific-Research Institute of Electric-Locomotive Building are working, has been completed in Novocherkassk. A full separation of the vehicle from the contact rail was executed. A reliable magnetic cushion exists!

The orange cab stood on rails raised above the ground. This is what transport of the future will be like--a magnet plane!

Staff worker N. A. Reshko of the Scientific-Research of Electric-Locomotive Building and I went up to the ladder and into the cab. The command is heard:

"Attention, I am turning on the switch!"

In this particular case it did not manage to go onto the "magnetic cushion." The apparatus simply rolled along the rails on standby rollers. But the "cushion" for it has already been prepared: at the start of the year scientists successfully tested a stationary model of electric-magnet suspension. The apparatus itself was built in July. Now it remains to detach this 3-ton bulky thing from the special ferroalloy rails.

The test continues. The apparatus tilts barely noticeably, and one of the emergency rollers hangs in the air. We ballast the cab, we try to swing it--the gap remains as before.

Work on the creation of transport based upon the magnetic cushion had been conducted in our country before. In what way does the research now under way in Novocherkassk differ?

"The problem of high-speed overland transport for intercity passenger hauling interests us most of all," says manager of the scientific group, deputy director of VELNII [All-Union Scientific-Research, Design

Development and Technological Institute for Electric Locomotive Building| V. I. Hocharov. "The existing relatively simple model, in which a permanent magnetic field is used, does not satisfy us. But the variant with electromagnetic suspension provides for full separation of the vehicle from the road, enabling it to develop a speed of up to 500 km/hr."

Fantastic? No. The institute's staff workers have already selected the magnet plane for some of the more optimal routes, based upon calculation of passenger flows for the year 2,000. The average speed of such trains, the number of cars, even the number of seats in each of them have already been set....The advantages of a train based upon the magnetic cushion are obvious: maximum comfort, high speed, and safety. It goes without saying, moreover, that this is the "cleanest" transport. It does not contaminate the environment with harmful exhausts or noise. And the energy expenditure is a tenth, for example, of what an airplane requires.

11409

CSO: 1829

RAILROAD

VL80R ELECTRIC LOCOMOTIVE IN SERIES PRODUCTION

Moscow GUDOK in Russian 12 Feb 80 p 2

[Article by L. Kapustin, candidate of engineering sciences (Moscow): "The VL80r Has Been Accepted for Series Production"]

[Text] The interdepartmental commission has signed the report that accepts the 8-axle AC-type freight electric locomotive, the VL80r, for series production.

Electric locomotives of this series have been in test operation on heavily loaded sections of some of our railroads for several years now. More than 120 locomotives of this type are providing haulage on a proving ground of 1,680 km.

Outwardly, the new electric locomotive differs little from its 8-axle brethren with the "k" and "t" designations--it has the same undercarriage, the same traction motors, the same roof equipment, and a similar body.... However, inside the vehicle is filled with new components and apparatus, thyristor converters and electronic equipment. Here there are none of the ordinary controllers, transient coils and group switches. On the VL80r locomotive, for the first time, modern electronics are used widely. This locomotive surpasses the best foreign models in a number of respects.

During testing and operation the new electric locomotive confirmed its high efficiency under various conditions. The duplicative electronic control equipment, the redundancy of the power thyristors, and the system for remote resetting and cut-off of the equipment enabled the locomotive's efficiency to be assured even during breakdown of the equipment. Reliable high-speed protection prevents the grave consequences of emergency regimes.

In comparison with the VL80t electric locomotive, the new one, thanks to smooth regulation, can move a train of greater weight from a standing start and bring it to a higher speed. Regenerative braking and the regulation system enable 16-18 percent of the electricity consumed on a mountain-pass profile, and 20-25 percent of on hilly sections, to be saved.

The VL80r also has other important advantages--greater capacity for electrical braking and the potential for using it to stop the train completely.

The VL80r was created at the Novocherkassk Electric-Locomotive Building Plant in accordance with development work of the All-Union Scientific-Research Institute of Electric-Locomotive Building and the All-Union Scientific-Research Institute for Railroad Transport. A section of the Saran' plant 'Elektrovypryamitel', the Tallin Electrical Equipment Plant, the All-Union Electrical-Engineering Institute imeni Lenin and other organizations took part in its manufacture.

During the first periods of operation of the locomotive, the low quality of manufacture of certain components exerted an adverse effect on its reliability, and it did not get by without design and schematic errors. Neither can one refrain from speaking about the lack of experience in servicing and repair of the new equipment. But from year to year, from consignment to consignment, the electric locomotives became more perfected, and calls at the barns for unforeseen repair and downtime for fixing the machines were reduced. The number of power thyristor breakdowns was cut. The traction motors operate stably. The cassette version of the electronic apparatus enables a failed component to be replaced rapidly at the PTO [technical servicing section] or at the locomotive barn by a new one and the locomotive to be returned to line operation rapidly.

Overhaul of the electronic equipment has been mastered at the locomotive barns at Bataysk on the North Caucasus Railroad and at Bogotol on the Krasnoyarsk railroad. A technician carries out tuning, checking and repair on hundreds of the electric locomotives successfully with the help of an electrical mechanic. The engineers are rapidly mastering the peculiarities of driving the new electric locomotive.

Use of the VL80r on long runs in the overall traffic schedule with electric locomotives of other types does not allow all the advantages of the new machine to be realized, either as to train weight and traveling speed or as to electrical braking. Thus, for example, while the better trained engineers, such as the pioneer in VL80r mastery on the North Caucasus Railroad A. Fadeyev, managed on the average to return 14-16 percent of the energy back to the grid, others scarcely manage half of this. There are deficiencies also in the system for technical servicing of the new machines: at some locomotive barns special stands for tuning up the equipment are lacking, a shortage of spare parts is being experienced, and there are no instructions on servicing the equipment.

Tests were completed recently on the Krasnoyarsk Railroad, during which train traffic schedules were organized with VL80r locomotives alone. The fear that with their arrival the potential in the overhead contact system could be reduced, the power coefficient lowered, and harmful effects on the lines of communications increased, fell off completely.

There are no obstacles now to the wide introduction of V080r locomotives on the country's railroads. It is desirable to provide them first to the Far Eastern, Krasnoyarsk and East Siberian railroads, including the Tayshet-Lena section immediately adjacent to the BAM [Baykal-Amur Mainline].

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RAILROAD

EXPERIMENTAL VL14 ELECTRIC LOCOMOTIVE TO BE PRODUCED

Moscow GUDOK in Russian 22 Feb 80 p 2

[Article by I. Zin'kov, senior VELNII [All-Union Scientific-Research, Design Development and Technological Institute for Electric-Locomotive Building] engineer (Novocherkassk): "A New Electric Locomotive"]

[Text] A collective of workers of the All-Union Scientific-Research, Design Development and Technological Institute for Electric Locomotive Building--VELNII--has issued the design for the new powerful 8-axle DC-type mainline electric locomotive, the VL14. Design development was conducted in accordance with a technical task that was coordinated with the Ministry of Railways. During the design, experience in developing and manufacturing locomotives for the BAM [Baykal-Amur Mainline] and experience in operating DC vehicles were considered.

In their traction characteristics the VL14's will surpass all DC-type locomotives previously built in our country. The VL14's power has risen 32 percent, tractive effort 28 percent, over the VL11's, its designed speed is 120 km/hr, and it can operate at an ambient air temperature of from -50 to +40 degrees.

The use of a large number of new technical solutions was called for on the VL14 that improve its operating qualities over serially produced electric locomotives of the same type. For example, the use of a support frame suspension system for the traction motors will improve the dynamic characteristics of the electric locomotive and will reduce its effect on the track. A static converter is used to feed the field winding of the traction motors and the control circuit and to recharge the storage battery. The automatic control system provides for maintenance of a given speed during descents with electrical braking regimes, and a potential for operating the new locomotive under the multiple-unit system is called for.

The mechanical portion of the VL14 has been unified to the maximum with the VL84. The large-module method of assembly will be used during construction of the locomotive's structure. Thus, for the first time in domestic and foreign electric-locomotive manufacturing practice, a removable engineer's cab has been used. And other equipment also will be assembled in large modules.

The working drawings for the VL14 have been transmitted to the Novocherkassk Order of Lenin Electric-Locomotive Manufacturing Plant for industrial preparation. The production of a test model of the new locomotive is planned for the third quarter of this year.

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RAILROAD

ALMA-ATA PLANT REPAIRS ELECTRIC DIESEL ENGINES

Moscow GUDOK in Russian 14 Mar 80 p 2

[Article by G. Isakov (Alma-Ata): A Mirage Department"]

[Text] The CPSU Central Committee and USSR Council of Ministers decree about measures for developing railroad transport poses, among other things, questions that touch on the work of transport repair plants. Special attention is paid, because of this, to the question of further developing the repair base and reequipping the enterprises with machinery, with a view to increasing product output at least material and financial expense in the same production space. Right now every second plant is undergoing radical reconstruction. The builders, jointly with clients, are to assimilate during the concluding year of the five-year plan more than 133 million rubles of capital investment and to introduce 109.7 million rubles' worth of additional production capacity. Sixty facilities are due for startup.

Radical reconstruction envisions the reequipping of departments with machinery, improvement in production sophistication and personal amenities, and the construction of housing. As experience shows, reconstruction is proceeding at a slow pace at many facilities and deadlines for introducing new capacity are being missed.

GUDOK's editorial board has decided to take under its unremitting monitoring the progress of construction work at the most important facilities that are due for startup this year that are connected with both reequipping the production activity of transport-industry enterprises with machinery and improving cultural and personal-services and housing conditions. Today we publish the first information from Alma-Ata under the new heading.

The Alma-Ata Car-Repair Plant has changed its name and has been designated an electric motor-coach repair plant. Here a large electrical-machinery production facility is going into operation. Its capacity has been designed on the basis of intermediate-level repair and overhaul of 3,000 diesel-locomotive traction motors annually.

Several months ago GUDOK told about progress in erecting this important facility. It was noted particularly that the general contractor--SU-211 [Construction Administration No 211] of Kazakhtransstroy [Kazakh SSR Trust for Transport Construction]--unjustifiably delayed fulfillment of the planned operations. And the client, reconciled to this, postponed the delivery of the required equipment to dates later than called for originally. This proved to be a great mistake, which was reflected later in overall progress in assimilating the new production facility.

But it was extremely necessary to the transport function. And energetic measures taken by MPS [Ministry of Railways] and by local organizations, primarily party organizations, enabled the matter to be speeded up sharply. The conclusion of an agreement for collaboration between the partners in reequipping the enterprise helped here in no small degree. As a result, by the end of last year the complex due for startup (less the laboratory and personal-services building) was turned over for operation.

But it turned out that it was somewhat early to be beating the drums. A housewarming was observed at the plant, but the operators considered that the new production facility was only provisional. The power supply under the permanent scheme was turned over here only at the end of January. Right now equipment is being assembled at a rapid pace. So the real startup is far off, although, according to the plan, traction-motor repair should have started at the plant in December of last year.

As B. Noskov, deputy chief of the plant for electrical machinery production, expressed it: "We are still occupied only with iron." That is, in Alama-Ata only the mechanical part of the motors is being fixed. What a fatal error this expresses! There is a premise, but there is no industrial tooling. To be specific, production has been supported only with elevating and conveying, forging and presswork and metal-cutting equipment: whole units are lacking. And now the arrival of equipment for the conveyor line for assembly and disassembly of the motors is expected only by the end of the year.

Things are going even worse with nonstandard equipment. Despite the main administration's efforts, it has not been possible to get accelerated fulfillment of all deliveries. Those that are in arrears today: the Poltava Diesel-Locomotive Repair Plant, which has not manufactured 16 crane cantilevers; the Daugavpils Diesel-Locomotive Repair Plant, which has delayed shipment of an installation for testing the armature coil; and the Gomel' Machinery-Repair Plant, which should send a complex for the testing facility.

Each week some kind of freight for the new production facility arrives, and immediately after unloading they begin to install it, without system and chaotically: there are no machine tools, and that means the ventilation intake is not being installed, then suddenly the machine tools appear, but there is no ventilation equipment. The main administration has additionally obligated the Chelyabinsk Electric-Locomotive Repair Plant and the Smelyansk Electrical-Machinery Repair Plant to send tools. The Yaroslavl' Electric-Locomotive Repair Plant and the Voronezh Diesel-Locomotive Repair Plant are to send press molds. We would like to believe that the collectives of these enterprises will act toward the task with full responsibility.

But, as they say, hope for help but do not make things worse yourself. Right now a special department has been organized at the plant for the manufacture of nonstandard equipment. And already they have managed to do much. Also, the railroaders of the Alma-Ata Railroad will help. But, despite the measures taken, the entire chain of the technology is still nowhere from being set up.

The department is without tooling--this is half a department, and without its personnel you do not consider it a department at all. Eight hundred people must be assembled, to study the new job. Scarcely more than 150 workers are toiling in the department. Until now they lack rules for plant repair of the electrical machinery of diesel locomotives. These have been worked out but they are "stuck" in the presses somewhere. Therefore, electric-locomotive rules are being used for fixing diesel-locomotive units.

In brief, there are more than enough of all possible kinds of technical and organizational discrepancies. Yet this year the Alma-Ata people should, according to the plan, overhaul a thousand motors. True, this figure is treated extremely peculiarly here: it is necessary to begin sometime in the fourth quarter the output of this number of motors so that this would amount to the desired number in terms of a year. But achievement of the designed capacity--3,000 per year--is postponed until 1982.

Even at the plant they do not mention achievement of this goal ahead of schedule. The socialist commitments adopted by the collective do not say how many motors it has been decided to repair, for example, right now in the first quarter. It is simply that no one knows this, and they are working here on the principle: as it turns up. Most likely, everything is finished by the fact that the deadline for assimilating the new capacity has been delayed. As was the case a year ago, in Alma-Ata they have become reconciled with the situation that has been created. They consider that, once they have managed to delay the delivery of equipment by referring to objective difficulties, they will manage, advancing the same arguments, to revise the plan by the end of the year.

Once there is no competitive spirit in a collective, it is difficult to count on success. In order that the department may be converted from a

mirage into actuality, a technical line of action for both this year and the long term must be thought out with precision in order to set before the collective a clear goal--to compensate for the omissions, despite all the difficulties.

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RAILROAD

RR CAR SHORTAGE IN KRASNODAR

Moscow STROITEL'NAYA GAZETA in Russian 12 Mar 80 p 3

[Article by V. Kutnyashenko and V. Dovgalyuk, brigade leaders and heroes of socialist labor, and A. Kulinich, G. Logachev and N. Kurbyashev, brigade leaders and RSFSR distinguished builders (Krasnodar): "No Railroad Cars"]

[Text] All the collectives of Krasnodar's Kraykolkhozstroyob'yedineniye [Kray Kolkhoz Construction Association] have undertaken commitments to introduce, on time or ahead of time, facilities directly related to preservation of the harvest and the development of livestock raising. However, they are being threatened with failure.

The fact is that the supply of lumber to construction projects is worsening sharply. While shipping out 74,000 cubic meters of structural timber and plank timber to the railroad line during the fall-winter period of 1979-1980, our lespromkhoz [lumber industry facility] could not dispatch them to the kray's construction projects because of a lack of freight cars. The leftovers of finished output at the downstream storages of the lespromkhoz on 1 January 1980 were more than 76,000 cubic meters. During 2 months of the current year, the Caucasus Lespromkhoz (the Ust'-Ilimskaya Railroad Yard) received from MPS [Ministry of Railways] only 93 freight cars under a plan for 245. The Kuban' Lespromkhoz was given 91 instead of the 200 called for.

Transport's difficulties are well known. However, it is not clear to us: why do the railroaders consider the lespromkhoz of Krasnodarskiy Kraykolkhozstroyob'yedineniye as unimportant "independent loggers," and therefore do not allocate cars to them?"

We appeal with an earnest request to Minister of Railways Comrade Pavlovsk and to chief of the East Siberian Railroad Comrade Lintsadze to give instructions that freight cars be allocated immediately to the indicated lespromkhoz for the dispatch of timber that has accumulated.

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RAILROAD

BRIEF

POOR PASSENGER-CAR REPAIR--Kursk. About 150 passenger cars are assigned to the Kursk Carbarn fleet. They are being operated on trains on long-haul routes and on suburban trains. The requirements for servicing passengers are ever increasing, so the cars should be in good condition. And our carbarn's workers are doing everything that depends upon them to meet these requirements. But many things do not depend upon them. Each year our cars undergo overhaul in the Orel Carbarn of the Moscow Railroad. Alas, the quality of overhaul is low. In 1979, 97 passenger cars were sent to Orel, and 52 of them were overhauled so poorly that they were completely unsuitable for operation. During the year we sent 27 complaining telegrams to the Orel Carbarn. Ten cars were returned for repeat repair. Several times the deputy chief of this depot, V. Il'in, came to us and promised to take the necessary measures, but in fact nothing has changed. [Text] [Moscow PRAVDA in Russian 18 Mar 80 p 2] 11409

BAM CONSTRUCTION PROGRESS--Rails are being laid by a brigade at the 1,517th kilometer of the BAM route. The builders of the railway are only 4 kilometers from Chilchi station and plan to complete the track to that station by the Lenin birthday anniversary. [Blagoveshchensk Domestic Service in Russian 1000 GMT 15 Apr 80]

CSO: 1829

OCEAN AND RIVER

ORE-CARRYING SAILING SHIP DESIGNED

Moscow MOSCOW NEWS in English No 15, 20-27 Apr 80 p 10

[Article by Gennady Selin]

[Text] Research has been going on at Professor Yuri Kryuchkov's laboratory at the Nikolayev Institute of Shipbuilding in the Ukraine into propulsion methods for vessels that will be both economic and clean. The team has come up with a project of a sail-and-engine boat of the "river-sea" type. The limited nature of fuel resources and the increasing struggle against environmental pollution are the motivations for the idea of returning to commercial use of the wind's energy, specifically for ships. Such ships will soon be launched on the Dnioper River and sail to the Black Sea. From Kiev they will sail approximately half the way to Odessa without using their engines and, given fair wind, will develop a speed of up to 15 knots (about 30 km per hour).

In order to sail under bridges, the main mast can be lowered to the necessary level.

The study ranges from two-masted pleasure boats to oceangoing freighters. The researchers have already designed an ore-carrier of this type. The plans are to use seven 70-m-tall masts that will be able to carry sails with a combined area of 14,000 sq m.

The ship will be computer controlled so that the force and direction of the wind, the current and the desired course will be automatically considered, and accurate commands will be given to the steering systems. The freighter is designed for the Europe-Japan-Australia-Europe line--a zone where permanent winds prevail. The maximum speed of these ore-carrying sailing ships will exceed 20 knots, the average cruising speed--13 knots.

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MISCELLANEOUS

USSR LANDBRIDGE TO IRAN ADVERTISED

Moscow MOSCOW NEWS in English No 13, 6-13 Apr 80 p 8

[Advertisement]

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Supplement to "Moscow News" issue No. 13 (2897), 1980

CSO: 1812

MISCELLANEOUS

FREIGHT TRAFFIC FROM USSR TO IRAN CONTINUES

Moscow MOSCOW NEWS in English No 15, 20-27 Apr 80 p 9

[Article by Igor Troyanovsky]

[Text] The heavy refrigerator trucks slowly roll onto the bridge spanning the Astara River and, reaching the middle of it, cross the Soviet-Iranian border. Astara, a town in Azerbaijan, has become an important transit centre for haulage transport from Europe to Iran.

Cargo for Iran--butter, cheese, baby foods, construction materials, chemicals, paper and other consumer goods--is pouring into the country from the FRG, France, Great Britain, Belgium, Denmark, the Netherlands, Switzerland and other states.

This volume of freight traffic will dramatically increase in the very near future, for construction of one of the biggest transshipment bases in the USSR has been completed in Astara. A base of about the same capacity is now being built on the Iranian side.

Transit through the USSR acquires a vital importance for Iran due to Washington's threats to set up an economic blockade. Cargo is also carried on the railway that goes into Iran through the Azerbaijanian town of Dzhulfa.

In spite of the quite obvious attempts of certain quarters in the West to upset the USSR-Iran relations, trade and economic contacts between our two countries continue to develop. The USSR delivers to Iran the goods it needs and electric power. The hydropower project on the Araks River is run by both countries, as before, and joint work is now afoot on designing the Khudoferinsky hydropower project, as I was told by Dmitry Dubinin, project's chief engineer, at the Baku branch of the Gidroproekt Hydropower Design Institute.

The USSR strives to develop Soviet-Iranian relations on principles of good-neighbourliness and lends support to Iran in its struggle against foreign intervention and for genuine national independence.

This is a principled stand. Immediately after the 1979 October Revolution in Russia, the Soviet Government declared that it had scrapped the secret treaties on the partitioning of Persia and Turkey. Moscow repudiated the concessions and payments that were coming in from Iran. The first equal treaty in the relations between the neighbour states, which laid the foundations for mutually beneficial cooperation was signed in February 1921.

The entire atmosphere in Astara reveals the total lack of ground for the reports by certain mass media organs in the West about "tensions" on the Soviet-Iranian border. It is not possible to see anything that is not there, and I failed to see any sign of "tensions." Neither did I see any troops apart from the usual frontier guard units.

Life in the town is exactly as it should be in a district capital in Transcaucasia.

Every Friday, from the minaret of the Astara mosque, a muezzin traditionally calls on the believers to attend divine services.

Astara-Moscow

CSO: 1812

MISCELLANEOUS

TRUCKS ASSUME PART OF RAILROAD'S ROLE IN SIBERIA

Moscow AVTOMOBIL'NIY TRANSPORT in Russian No 3, 1980, pp 27-28

[Article by N. Brayko of the Western Siberian Freight Transportation Administration: "From Railroad to Motor Vehicle"]

[Text] The transportation administration is giving constant attention to the development of freight shipments between cities and to the improvement of the utilization of motor vehicles. The volume of inter-city shipments grew almost five-fold in comparison with 1970, and their relative proportion of over-all freight turnover increased from 5.6 to 13.6 percent, or more than 2.5-fold. The number of motor vehicles involved in these shipments increased from 112 to 377 units. The run-utilization coefficient was improved.

Transport expeditionary enterprises (TEP) carry out inter-city shipments of freight between oblasts. They were created in the administration in 1974. A TEP is also operationally subordinate to the Coordinating Center attached to the Kemerovo Transportation Administration. These enterprises deal with the load of motor vehicles moving through a network of their dispatching posts. Over the past four years, 67,500 freight vehicles have been loaded, and 529,600 tons of freight have been shipped, which has resulted in 338,400 rubles of profit.

The further development of inter-city shipments of freight in motor vehicles is connected with the switch of short-run shipments from railway to motor vehicle transport, especially in connection with the receipt of heavyfreight rolling stock, KamAZ motor vehicles. Back in 1976, the administration conducted a written survey of senders and receivers of freight along the railroad within the oblast. Then, together with railway workers and their customers, they developed a plan for the carrying out of necessary preparatory work for the transfer of freight to motor vehicle transport. The real volume of short-run shipments is determined by the orders of customers. The largest share in this volume of shipments (2.5 million tons) is made up by scrap metal, 324,000 tons; metal products, 308,000 tons; industrial goods, 133,000 tons; foodstuffs, 106,000 tons; construction materials, 768,000 tons; and grain and other dry freight, 250,000 tons each.

Last year, our administration, the Western Siberian Railroad and the Oblast People's Control Committee conducted an inspection of the enterprises and organizations which were planning the switch of freight from railway to motor vehicle transport. The investigation showed that in those enterprises where questions of development of transport and warehouse operations are being solved in a thorough manner and where the prospects of the enterprise itself are being taken into account, the switch of the volume of short-run freight to motor vehicle transport is moving ahead without particular difficulties and without delays.

At the same time, in Novosibirsk there are large industrial enterprises which are located in immediate proximity to railway trunk lines and which are connected with them and among themselves by a sufficiently developed network of spur railway lines. These enterprises refuse to ship their freight by motor vehicle transport for a host of objective reasons.

One of these reasons is that these enterprises are oriented primarily for work with the railroad. For example, the plant, Vtorchermet, annually receives approximately 200,000 tons of scrap metal from an average distance of 14 kilometers. However, due to the absence of posts for unloading, the plant cannot receive this freight by motor vehicle. At the same time, such large plants like the Novosibirsk Agricultural Machinery Plant and others do not have the capacity to ship scrap metal except in railway cars, since its shipment has been established by technology to move only by rail.

Another reason is the difference in rates for railway and motor vehicle transport. As is well known, rates for motor vehicle shipments are considerably higher than for rail, and customers are reluctantly switching for short-run freight. Therefore, it would be advisable to readjust the rate system, establishing an identical rate for the shipment of freight by rail and by motor vehicle transport for a distance of up to 300 kilometers.

A very important factor restraining an increase in the volume of freight being switched from rail transport to motor vehicle is the unsatisfactory condition of the road network. In our oblast, few (only 17 percent) of the roads have hard surfaces which are suitable for the year-round steady work of motor vehicle transport. A large number of roads become generally unsuitable for multi-ton motor vehicle traffic in the spring and the fall. During the winter a significant number of these roads are subject to snow drifts and are not regularly plowed. Moreover, the majority of bridges in the oblast are wooden and unsuitable for the passage of multi-ton motor vehicles and motor trains.

Since last year the Western Siberian Freight Transportation Administration has been also carrying out inter-city shipments of freight (to Mongolia)

(cm. photo). A specialized motor vehicle enterprise, Novosibirsksovvavto, with a fleet of 180 vehicles, was organized for this at Motor Vehicle Combine No 1 (on the base of one of the vehicle columns of the vehicle combine).

Certain unsolved problems are holding up the further development of inter-city shipments of freight in Western Siberia.

Due to the absence of specialized rolling stock, we often cannot accept freight demanding special transportation conditions for inter-city shipment (including freight from rail transport as well). Thus, in the hot summer and severe winter conditions of Siberia, the shipment of perishable foodstuffs by general-purpose motor vehicles does not satisfy sanitary norms and does not guarantee the safety and quality of the freight. To carry out inter-city shipments of wine and vodka products, fish, meat and dairy products, and other freight, we need refrigerator trucks and vehicles of large carrying capacity with isothermal bodies. But we are given five-eight vehicles at a demand of 40-50 a year.

Our administration has not been able to achieve inclusion for a long time in the title list of capital construction for a freight motor vehicle station for 1,500 tons of shipment in Novosibirsk, which is necessary for the further development of inter-city shipments. Also, the question of granting the administration allocations and materials being demanded for this construction has not been decided up to now.

The ministry's aid will permit the Western Siberian Territorial Transport Administration to significantly increase the volume of inter-city shipments of freight and to release the railroad from irrational short-run shipments.

[Caption] The delivery of national economic freight to Mongolia is carried out along the Chuyskiy Road by motor vehicles of the Novosibirsk Motor Vehicle Combine No 1. A rest before the Seminskiy Pass.

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